| | |
|---|---|
| Communications involving aircraft: | |
| On-scene, including search and rescue. | 156.8 MHz[4], 121.5 MHz[5], 123.1 MHz, 156.3 MHz, 2182 kHz, 3023 kHz, 4125 kHz, and 5680 kHz[6]. |
| Locating signals: | |
| 406 MHz EPIRB beacons. | 121.5 MHz. |
| 9 GHz radar transponders. | 9200–9500 MHz. |
| Maritime safety information (MSI): | |
| International NAVTEX. | 518 kHz[7]. |
| Warnings | 490 kHz[8], 4209.5 kHz[9]. |
| NBDP | 4210 kHz, 6314 kHz, 8416.5 kHz, 12579 kHz, 16806.5 kHz, 19680.5 kHz, 22376 kHz, 26100.5 kHz. |
| Satellite | 1530–1545 MHz (space-to-Earth)[10]. |
| General distress and safety communications and calling: | |
| Satellite | 1530–1544 MHz (space-to-Earth) and 1626.5–1645.5 (Earth-to-space)[10]. |
| Radiotelephony | 2182 kHz, 4125 kHz, 6215 kHz, 8291 kHz, 12290 kHz, 16420 kHz, and 156.8 MHz. |
| NBDP | 2174.5 kHz, 4177.5 kHz, 6268 kHz, 8376.5 kHz, 12520 kHz, and 16695 kHz. |
| DSC | 2187.5 kHz, 4207.5 kHz, 6312 kHz, 8414.5 kHz, 12577 kHz, 16804.5 kHz, and 156.525 MHz. |
| Survival craft: | |
| VHF radiotelephony. | 156.8 MHz and one other 156–174 MHz frequency. |
| 9 GHz radar transponders. | 9200–9500 MHz. |

[1] Frequency 156.525 MHz can be used for ship-to-ship alerting and, if within sea area A1, for ship-to-shore alerting.

[2] For ships equipped with MF/HF equipment, there is a watch requirement on 2187.5 kHz, 8414.5 kHz, and one other frequency.

[3] Frequency 2187.5 kHz can be used for ship-to-ship alerting and, if within sea areas A2, for ship-to-shore alerting.

[4] Frequency 156.8 MHz may also be used by aircraft for safety purposes only.

[5] Frequency 121.5 MHz may be used by ships for aeronautical distress and urgency purposes.

[6] The priority of use for ship-aircraft communications in 4125 kHz, then 3023 kHz. Additionally, frequencies 123.1 MHz, 3023 kHz, and 5680 kHz can be used by land stations engaged in coordinated search and rescue operations.

[7] The international NAVTEX frequency 518 kHz is the primary frequency for receiving maritime safety information. The other frequencies are used only to augment the coverage or information provided on 518 kHz.

[8] Frequency 490 kHz cannot be used for MSI employing NBDP transmissions until February 2, 1999.

[9] Frequency 4209.5 kHz is not used in the United States (see 47 CFR 2.106 footnote 520A).

[10] In addition to EPIRBs, 1544–1545 MHz can be used for narrowband distress and safety operations and 1645.5–1646.5 MHz can be used for relay of distress alerts between satellites. Feeder links for satellite communications are assigned from the fixed satellite service, see 47 CFR 2.106.

## EQUIPMENT REQUIREMENTS FOR SHIP STATIONS

### § 80.1081 Functional requirements.

Ships, while at sea, must be capable:

(a) Except as provided in §§ 80.1087(a)(1) and 80.1091(a)(4)(iii), of transmitting ship-to-shore distress alerts by at least two separate and independent means, each using a different radiocommunication service;

(b) Of receiving shore-to-ship distress alerts;

(c) Of transmitting and receiving ship-to-ship distress alerts;

(d) Of transmitting and receiving search and rescue co-ordinating communications;

(e) Of transmitting and receiving on-scene communications;

(f) Of transmitting and receiving signals for locating;

(g) Of transmitting and receiving maritime safety information;

(h) Of transmitting and receiving general radiocommunications to and from shore-based radio sytsems or networks; and

(i) Of transmitting and receiving bridge-to-bridge communications.

### § 80.1083 Ship radio installations.

(a) Ships must be provided with radio installations capable of complying with the functional requirements prescribed by § 80.1081 throughout its intended voyage and, unless exempted under § 80.1071, complying with the requirements of § 80.1085 and, as appropriate for the sea area of areas through which it will pass during its intended voyage, the requirements of either §§ 80.1087, 80.1089, 80.1091, or 80.1093.

(b) The radio installation must:

(1) Be so located that no harmful interference of mechanical, electrical or other origin affects its proper use, and

so as to ensure electromagnetic compatibility and avoidance of harmful interaction with other equipment and systems;

(2) Be so located as to ensure the greatest possible degree of safety and operational availability;

(3) Be protected against harmful effects of water, extremes of temperature and other adverse environmental conditions;

(4) Be provided with reliable, permanently arranged electrical lighting, independent of the main and emergency sources of electrical power, for the adequate illumination of the radio controls for operating the radio installation; and

(5) Be clearly marked with the call sign, the ship station identity and other codes as applicable for the use of the radio installation.

(c) Control of the VHF radiotelephone channels required for navigational safety must be immediately available on the navigating bridge convenient to the conning position and, where necessary, facilities should be available to permit radiocommunications from the wings of the navigating bridge. Portable VHF equipment may be used to meet the latter provision.

### § 80.1085 Ship radio equipment—General.

This section contains the general equipment requirements for all ships subject to this subpart.

(a) Ships must be provided with:

(1) A VHF radio installation capable of transmitting and receiving:

(i) DSC on the frequency 156.525 MHz (channel 70), and it must be able to initiate the transmission of distress alerts on channel 70 from the position from which the ship is normally navigated; and

(ii) Radiotelephony on the frequencies 156.300 MHz (channel 6), 156.650 MHz (channel 13), and 156.800 MHz (channel 16);

(2) A dedicated, non-scanning radio installation capable of maintaining a continuous DSC watch on VHF channel 70 which may be separate from, or combined with, that required by paragraph (a)(1)(i) of this section;

(3) A radar transponder capable of operating in the 9 GHz band, which must be stowed so that it is easily utilized (this transponder may be one of those required by § 80.1095(b) for a survival craft);

(4) A receiver capable of receiving international NAVTEX service broadcasts;

(5) If the ship is engaged on voyages in any area of INMARSAT coverage in which an international NAVTEX service is not provided, a radio facility for reception of maritime safety information by the INMARSAT enhanced group calling system, *i.e.,* SafetyNet, (this requirement does not apply to ships engaged exclusively on voyages in areas where an HF direct-printing telegraphy maritime safety information service, as identified by the IMO GMDSS Master Plan Publication, is provided and the ship is fitted with equipment capable of receiving such service); and

(6) A satellite emergency position-indicating radio beacon (satellite EPIRB) which must be:

(i) Capable of transmitting a distress alert through the polar orbiting satellite service operating in the 406 MHz band (406 MHz EPIRB); and

(ii) Installed in an easily accessible position, ready to be manually released and capable of being carried by one person into a survival craft, capable of floating free if the ship sinks and of being automatically activated when afloat, and capable of being activated manually.

(b) Until February 1, 1999, all ships must be equipped with a radio installation consisting of a radiotelephone distress frequency 2182 kHz watch receiver prescribed by § 80.807. This requirement does not apply to ships constructed on or after February 1, 1997.

(c) Until February 1, 1999, all ships, except ships engaged on voyages in sea area A1 only, must be equipped with a device for generating the 2182 kHz radiotelephone alarm signal as prescribed by § 80.807. This requirement does not apply to ships constructed on or after February 1, 1997.

(d) Ships must carry the most recent edition of the IMO publication entitled *GMDSS Master Plan of Shore-Based Facilities.* Notice of new editions will be